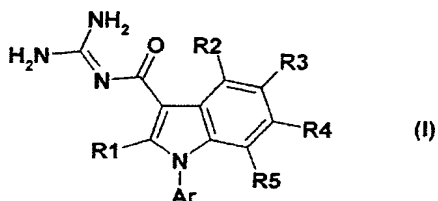


WHAT IS CLAIMED IS:

1. A compound of the formula (I)



wherein,

R1 is hydrogen or alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms,

R2 is hydrogen, alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms, halogen, NRaRb or polyfluoroalkyl having 1, 2, 3 or 4 carbon atoms,

Ra and Rb

are independently of each other hydrogen, linear or branched alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms or Ra and Rb form, together with the nitrogen atom to which they are attached, a 5- or 6-membered heterocycle, which may optionally contain another hetero atom chosen from O, S and N,

R3 is hydrogen, alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms, halogen, alkoxy having 1, 2, 3, 4, 5 or 6 carbon atoms or hydroxyl,

R4 is hydrogen, alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms, halogen, alkoxy having 1, 2, 3, 4, 5 or 6 carbon atoms or hydroxyl,

R5 is hydrogen or halogen,

Ar is a 9- or a 10-membered bicyclic heteroaryl having one, two or three nitrogen atoms, which may be linked via any of its positions,

or a racemic mixture, enantiomer, diastereomer, or tautomer of such compound, or a mixture thereof, or a pharmaceutically acceptable salt of such compound, racemic mixture, enantiomer, diastereomer, tautomer, or mixture.

2. A compound according to claim 1, wherein

R1 is hydrogen or alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms,

R2 is hydrogen, alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms, halogen, NRaRb or polyfluoroalkyl having 1, 2, 3 or 4 carbon atoms,

Ra and Rb

are independently of each other hydrogen, linear or branched alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms or Ra and Rb form, together with the nitrogen atom to which they are attached, a 5- or 6-membered heterocycle, which may optionally contain another hetero atom chosen from O, S and N,

R3 is hydrogen, alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms, halogen, alkoxy having 1, 2, 3, 4, 5 or 6 carbon atoms or hydroxyl,

R4 is hydrogen, alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms, halogen, alkoxy having 1, 2, 3, 4, 5 or 6 carbon atoms or hydroxyl,

R5 is hydrogen or halogen,

Ar is quinoline, isoquinoline, cinnoline or 7H-pyrrolo-[2,3-d]-pyrimidine, which may be linked via any of its positions.

3. A compound according to claim 1 wherein

R1 is hydrogen or alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms,

R2 is hydrogen, alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms, halogen, NRaRb or polyfluoroalkyl having 1, 2, 3, 4, 5 or 6 carbon atoms,

Ra and Rb

are independently of each other hydrogen, linear or branched alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms or Ra and Rb form, together with the nitrogen atom to which they are attached, a 5- or 6-membered heterocycle, which may optionally contain another hetero atom chosen from O, S and N,

R3 is hydrogen, alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms, halogen, alkoxy having 1, 2, 3, 4, 5 or 6 carbon atoms or hydroxyl,

R4 is hydrogen, alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms, halogen, alkoxy having 1, 2, 3, 4, 5 or 6 carbon atoms or hydroxyl,

R5 is hydrogen or halogen,

Ar is quinoline, which may be linked via any of its positions.

4. A compound according to claim 1 wherein

R1 is hydrogen or alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms,

R2 is hydrogen, alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms, halogen, NRaRb or polyfluoroalkyl having 1, 2, 3, 4, 5 or 6 carbon atoms,

Ra and Rb

are independently of each other hydrogen, linear or branched alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms or Ra and Rb form, together with the nitrogen atom to which they are attached, a 5- or 6-membered heterocycle, which may optionally contain another hetero atom chosen from O, S and N,

R3 is hydrogen, alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms, halogen, alkoxy having 1, 2, 3, 4, 5 or 6 carbon atoms or hydroxyl,

R4 is hydrogen, alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms, halogen, alkoxy having 1, 2, 3, 4, 5 or 6 carbon atoms or hydroxyl,

R5 is hydrogen or halogen,

Ar is isoquinoline, which may be linked via any of its positions.

5. A compound according to claim 1 which is:

3-guanidinocarbonyl-1-(isoquinol-1-yl)-1H-indole,

3-guanidinocarbonyl-1-(quinol-4-yl)-1H-indole,

3-guanidinocarbonyl-1-(quinol-2-yl)-1H-indole,

3-guanidinocarbonyl-1-(isoquinol-1-yl)-5-methyl-1H-indole,

3-guanidinocarbonyl-5-methyl-1-(quinol-2-yl)-1H-indole,

3-guanidinocarbonyl-5-methyl-1-(quinol-4-yl)-1H-indole,

3-guanidinocarbonyl-1-(quinol-3-yl)-1H-indole,

3-guanidinocarbonyl-1-(quinol-6-yl)-1H-indole,

3-guanidinocarbonyl-1-(quinol-8-yl)-1H-indole,

3-guanidinocarbonyl-1-(isoquinol-3-yl)-1H-indole,

3-guanidinocarbonyl-6-methoxy-1-(quinol-4-yl)-1H-indole,

3-guanidinocarbonyl-6-hydroxy-1-(quinol-4-yl)-1H-indole,

6-fluoro-3-guanidinocarbonyl-1-(quinol-4-yl)-1H-indole,

5-fluoro-3-guanidinocarbonyl-1-(quinol-4-yl)-1H-indole,

4-chloro-3-guanidinocarbonyl-1-(quinol-4-yl)-1H-indole,

5-chloro-3-guanidinocarbonyl-1-(quinol-4-yl)-1H-indole,

6-chloro-3-guanidinocarbonyl-1-(quinol-4-yl)-1H-indole,

4-fluoro-3-guanidinocarbonyl-1-(quinol-4-yl)-1H-indole,
3-guanidinocarbonyl-4-methyl-1-(quinol-4-yl)-1H-indole,
3-guanidinocarbonyl-4-trifluoromethyl-1-(quinol-4-yl)-1H-indole,
4-dimethylamino-3-guanidinocarbonyl-1-(quinol-4-yl)-1H-indole,

- 5 3-guanidinocarbonyl-1-(cinnolin-4-yl)-1H-indole, or
5-methoxy-3-guanidinocarbonyl-1-(cinnolin-4-yl)-1H-indole,
or a tautomer thereof or a pharmaceutically acceptable salt of such compound or
tautomer.

- 10 6. A pharmaceutical composition for human, veterinary, or phytoprotective use
comprising an effective amount of a compound according to claim 1 together with a
pharmaceutically acceptable medium.

- 15 7. A pharmaceutical composition for human, veterinary, or phytoprotective use
comprising an effective amount of a compound according to claim 1 together with a
pharmaceutically acceptable medium in combination with an effective amount of other
pharmacologically active ingredients or medicaments.

- 20 8. A method for the treatment or prophylaxis of cardiovascular disease, metabolic
disease, cancerous disease, or fibrotic disease comprising administering to a patient in
need thereof, an effective amount of a compound according to claim 1.

- 25 9. A method for the treatment or prophylaxis of
acute or chronic damage to, or disorders or indirect sequelae of organs and
tissues caused by ischemic or reperfusion events;
arrhythmias, life-threatening cardiac ventricular fibrillation, myocardial
infarction, angina pectoris;
ischemic states of the heart, ischemic states of the peripheral and central
nervous system, stroke, cerebral oedema attack, ischemic states of peripheral organs
30 and tissues;
states of shock;

diseases in which cellular proliferation represents a primary or secondary cause;

cancer, metastasis, prostate hypertrophy, prostate hyperplasia;
atherosclerosis, disturbances of lipid metabolism, high blood pressure;

5 disorders of the central nervous system;

non-insulin-dependent diabetes mellitus, late damage from diabetes;

thromboses, disorders resulting from endothelial dysfunction, intermittent claudication;

10 fibrotic disorders of internal organs, fibrotic disorders of the liver, fibrotic disorders of the kidney, fibrotic disorders of vessels, fibrotic disorders of lung, fibrotic disorders of the heart;

heart failure, congestive heart failure, acute or chronic inflammatory disorders, disorders caused by protozoa;

15 malaria, or coccidiosis in poultry, comprising administering to a patient in need thereof, an effective amount of a compound according to claim 1.

10. A method according to claim 9 for the treatment or prophylaxis of allergic shock, cardiogenic shock, hypovolaemic shock or bacterial shock.

20 11. A method according to claim 9 for the treatment or prophylaxis of essential hypertension.

12. A method according to claim 9 for the treatment or prophylaxis of disorders resulting from overexcitability of the CNS.

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13. A method according to claim 12, for the treatment or prophylaxis of epilepsy or centrally induced convulsions.

30 14. A method according to claim 9 for the treatment or prophylaxis of anxiety states, depressions or psychoses.

15. A method for protecting an organ in a transplant donor during organ transplantation, both before and during the removal of the organ, comprising administering to said donor, an effective amount of a compound according to claim 1.

5 16. A method for protecting a removed organ during treatment with, or storage in physiological bath liquids, comprising contacting said organ with a compound according to claim 1.

10 17. A method for protecting a removed organ during transfer to a recipient organism during organ transplantation, comprising contacting said organ with a compound according to claim 1.

15 18. A method for preventing age-related tissue change, in a patient in need thereof, comprising administering to said patient, an effective amount of a compound according to claim 1.

19. A method for prolonging life in a patient in need thereof, comprising administering to said patient, an effective amount of a compound according to claim 1.

20 20. A method for the treatment or reduction of the cardiotoxic effects in thyrotoxicosis in a patient in need thereof, comprising administering to said patient an effective amount of a compound according to claim 1.

25 21. A diagnostic agent comprising a compound according to claim 1.

22. A method for the treatment or prophylaxis of
acute or chronic damage to, or disorders or indirect sequelae of organs and
tissues caused by ischemic or reperfusion events;
arrhythmias, life-threatening cardiac ventricular fibrillation, myocardial
30 infarction, angina pectoris;

ischemic states of the heart, ischemic states of the peripheral and central nervous system, stroke, cerebral oedema attack, ischemic states of peripheral organs and tissues;

states of shock;

5 diseases in which cellular proliferation represents a primary or secondary cause;

cancer, metastasis, prostate hypertrophy, prostate hyperplasia;

atherosclerosis, disturbances of lipid metabolism, high blood pressure;

disorders of the central nervous system;

10 non-insulin-dependent diabetes mellitus, late damage from diabetes; thromboses, disorders resulting from endothelial dysfunction, intermittent claudication;

fibrotic disorders of internal organs, fibrotic disorders of the liver, fibrotic disorders of the kidney, fibrotic disorders of vessels, fibrotic disorders of lung, fibrotic disorders of the heart;

15 heart failure, congestive heart failure, acute or chronic inflammatory disorders, disorders caused by protozoa;

20 malaria, or coccidiosis in poultry, comprising administering to a patient in need thereof, an effective amount of a compound according to claim 1, in combination with an effective amount of another medicament or active ingredient.

23. A method according to claim 22 for the treatment or prophylaxis of allergic shock, cardiogenic shock, hypovolaemic shock or bacterial shock.

25 24. A method according to claim 22 for the treatment or prophylaxis of essential hypertension.

25. A method according to claim 22 for the treatment or prophylaxis of disorders resulting from overexcitability of the CNS.

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26. A method according to claim 25, for the treatment or prophylaxis of epilepsy or centrally induced convulsions.

27. A method according to claim 22 for the treatment or prophylaxis of anxiety states, depressions or psychoses.

5 28. A method for protecting an organ in a transplant donor during organ transplantation, both before and during the removal of the organ, comprising administering to said donor, an effective amount of a compound according to claim 1 in combination with an effective amount of another medicament or active ingredient.

10 29. A method for protecting a removed organ during treatment with, or storage in physiological bath liquids, comprising contacting said organ with a compound according to claim 1 in combination with an effective amount of another medicament or active ingredient.

15 30. A method for protecting a removed organ during transfer to a recipient organism during organ transplantation, comprising contacting said organ with a compound according to claim 1 in combination with an effective amount of another medicament or active ingredient.

20 31. A method for preventing age-related tissue change, in a patient in need thereof, comprising administering to said patient, an effective amount of a compound according to claim 1 in combination with an effective amount of another medicament or active ingredient.

25 32. A method for prolonging life in a patient in need thereof, comprising administering to said patient, an effective amount of a compound according to claim 1 in combination with an effective amount of another medicament or active ingredient.

30 33. A method for the treatment or reduction of the cardiotoxic effects in thyrotoxicosis in a patient in need thereof, comprising administering to said patient an effective amount of a compound according to claim 1 in combination with an effective amount of another medicament or active ingredient.

34. A diagnostic agent comprising a compound according to claim 1 in combination with an effective amount of another medicament or active ingredient.

5 35. A method of reducing the cardiotoxic or cytotoxic effects of cardiotoxic or cytotoxic medicaments or active ingredients having cardiotoxic or cytotoxic properties, in a patient in need thereof, comprising administering to said patient, an effective amount of a compound according to claim 1 in combination with an effective amount of said cardiotoxic or cytotoxic medicament or active ingredient.

10 36. A method for the treatment or prophylaxis of acute or chronic damage, disorders or indirect sequelae of organs or tissues caused by ischemic or reperfusion events in a patient in need thereof, comprising administering to said patient an effective amount of a compound according to claim 1.

15 37. A method for the treatment or prophylaxis of acute or chronic damage, disorders or indirect sequelae of organs or tissues caused by ischemic or reperfusion events in a patient in need thereof, comprising administering to said patient an effective amount of a compound according to claim 1 in combination with an effective amount of another medicament or active ingredient.

20 38. A method for the treatment of life-threatening cardiac ventricular fibrillation, in a patient in need thereof, comprising administering to said patient, an effective amount of a compound according to claim 1.

25 39. A method for the treatment of life-threatening cardiac ventricular fibrillation, in a patient in need thereof, comprising administering to said patient, an effective amount of a compound according to claim 1 in combination with an effective amount of another medicament or active ingredient.

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40. A method for the treatment or prophylaxis of metastasis in a patient in need thereof, comprising administering to said patient an effective amount of a compound according to claim 1.

5 41. A method for the treatment or prophylaxis of metastasis in a patient in need thereof, comprising administering to said patient an effective amount of a compound according to claim 1 in combination with an effective amount of another medicament or active ingredient.

10 42. A method for the treatment or prophylaxis of fibrotic disorders of the heart, heart failure, or congestive heart failure, in a patient in need thereof, comprising administering to said patient an effective amount of a compound according to claim 1.

15 43. A method for the treatment or prophylaxis of fibrotic disorders of the heart, heart failure, or congestive heart failure, in a patient in need thereof, comprising administering to said patient an effective amount of a compound according to claim 1 in combination with an effective amount of another medicament or active ingredient.

20 44. A method for the treatment or prophylaxis of a disease which is related to NHE, in a patient in need thereof, comprising administering to said patient an effective amount of a compound according to claim 1.

25 45. A method for the treatment or prophylaxis of a disease which is related to NHE, in a patient in need thereof, comprising administering to said patient an effective amount of a compound according to claim 1 in combination with an effective amount of another medicament or active ingredient.

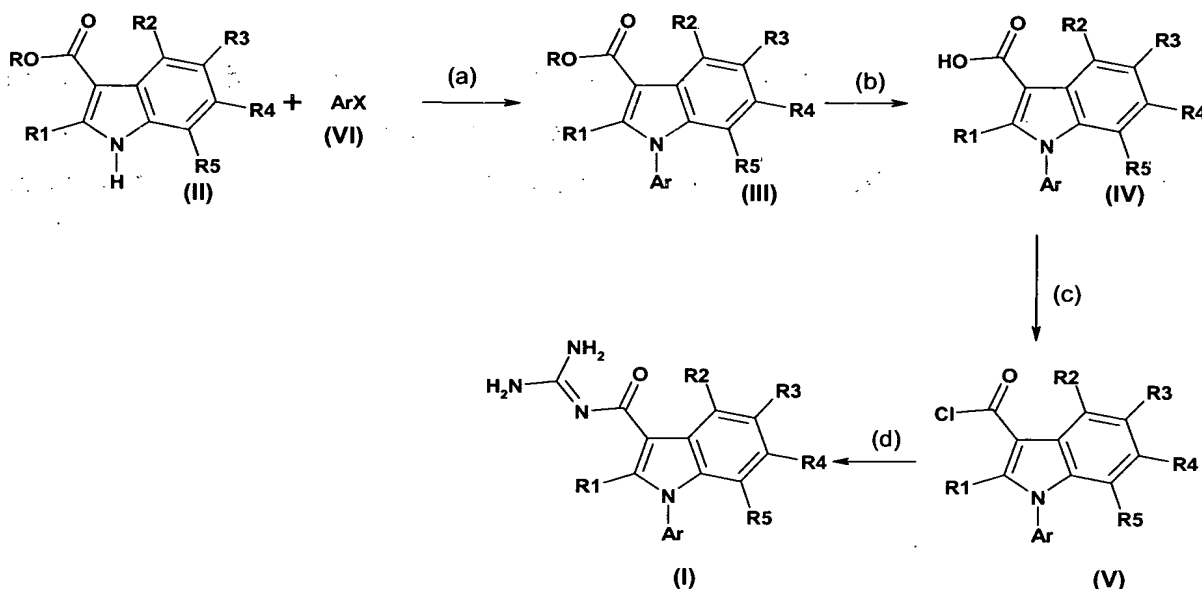
30 46. A method for the treatment or prophylaxis of a disease which is related to NHE1, in a patient in need thereof, comprising administering to said patient an effective amount of a compound according to claim 1.

47. A method for the treatment or prophylaxis of a disease which is related to NHE1, in a patient in need thereof, comprising administering to said patient an effective amount of a compound according to claim 1 in combination with an effective amount of another medicament or active ingredient.

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48. A method for protecting the organs or blood vessels during surgical intervention, in a patient in need thereof, comprising administering to such patient an effective amount of a compound according to claim 1.

10 49. A process for the preparation of a compound according to claim 1 characterised in that



a) a heteroaryl halide ArX of the formula (VI) is reacted with a 3-alkoxycarbonyl-1H-indole of the formula (II)

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b) the obtained 3-alkoxycarbonyl-1-heteroaryl-indole of the formula (III) is saponified

c) the 3-carboxy-1-heteroaryl-indole of the formula (IV) is converted in the acid chloride of formula (V)

d) the obtained product of formula (V) is reacted with guanidine,

20

the product is isolated and is optionally converted into a pharmaceutically acceptable salt,

wherein in the compounds of the formula II, III, IV, V and VI

Ar, R1, R2, R3, R4 and R5 are defined as in claim 1,

X is F, Cl, Br or I and

R is alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms.